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ABSTRACT

A child psychiatric consultant describes the category of pervasive developmental disorders of children, characterized by grossly deviant patterns of growth and maturation in cognitive, psychological, biological, and social development (not including disorders resulting from demonstrable brain damage). Theories of causation are reviewed and research evidence regarding etiology is noted to be equivocal. Clinical features are listed, including pervasive lack of responsiveness to others and onset before 30 months. Diagnostic criteria are also set forth and similiarities with infantile autism are pointed out. A case study illustrates characteristics and suggests the importance of early appropriate intervention. Structured classroom training combined with intrusive behavioral methods are seen as the most effective treatment approach, while pharmocotherapy is viewed as a valuable adjunct. (CL)

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THE PERVASIVE DEVELOPMENTAL DISORDERS OF CHILDHOOD - WHO ARE THESE CHILDREN AND WHAT ROLE DOES THE EDUCATIONAL PROFESSIONAL PLAY IN EVALUATION AND TREATMENT

This discussion is an outgrowth of our work at the Variety Club School in Honolulu, Hawaii. This is a private day institution that evaluates and educates children with learning disabilities. Our educational philosophy is based upon mutually addressing the educational and emotional needs of our children and their families. As a Child Psychiatric consultant to this school it became apparent that occasionally a child would be referred who was more pervasively disturbed than others and, in fact, met the criteria for a Pervasive Developmental Disorder. The purpose of this discussion is to familiarize the educational professional with this category of childhood disorders to enable you to more readily recognize them and consequently be of assistance in the appropriate evaluation and treatment planning for these children.

The classification "Pervasive Developmental Disorders of Childhood" appear for the first time in the third edition (1980) of the "Diagnostic and Statistical Manual of Mental Disorders (DSM III), the official nomenclature of the American Psychiatric Association. They are a group of disorders which are characterized by a severe widespread deviation in the development of many aspects of personality organization. These disorders include:

1. Infantile Autism - full syndrome present
2. Infantile Autism - residual state
3. Childhood Onset Pervasive Developmental Disorder - full syndrome present
4. Childhood Onset Pervasive Developmental Disorder - residual state
5. Atypical Pervasive Developmental Disorder

In contrast to children with specific developmental disorders, these children manifest grossly deviant patterns of growth and maturation in cognitive, psychological, biological and social development. The entire personality is poorly organized with dramatic impairments in human relationships and attachments, bizarre emotional responses, as well a significant failures in many areas of cognitive development. This classification does not include those disorders that are recognized as a consequence of demonstrable brain damage.

Medical and psychiatric interest in this group of childhood disorders extends back to the 19th century, at which time the new classifications of adult psychosis were immediately extended to include children (dementia infantilis, childhood schizophrenia). However, the syndrome of Infantile Autism was first fully described by Leo Kanner in 1943, thus opening the door for further research

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into its etiology and treatment. These disorders are presently considered a separate entity from schizophrenia.

Epidemiological studies reveal the overall incidence of these disorders to be approximately four children in every 10,000 under the age of 15 years, thus being a relatively rare class of disorders but affecting a significant number of children in our population. It is three to four times more prevalent in boys than girls and is equally distrubuted in the social classes.

The cause or causes of the pervasive developmental disorders are as yet not established. It is generally believed that they are etiologically heterogeneous. Theories of causation fall into three general classes:

1. The First Class emphasizes the primary role of a biologic deformity of the child from the earliest days of life - an atypism based on an essential biological impairment of the developing brain.

2. The Second Class emphasizes the primary role of psychosocial factors in the development of these disorders.

3. The Third Class of theories emphasizes the interaction between the child's intrinsic adaptive limitations (biological impairment) and the constraining effects of his psychosocial environment.

The research evidence as to the etiology of these disorders is equivocal. It does appear that these children have a biological (intrinsic) defect of the developing brain but the exact nature of the organic dysfunction remains to be delineated. However, the role of the environment (psychosocial) and its complex interaction with the child also appears to be important but remains to be fully evaluated.

These children may first come to the attention of educational professionals because of their cognitive delays. Therefore, it is necessary for these professionals to be aware of the clinical features of these disorders for identification and referral to the appropriate evaluation and treatment setting.

Infantile Autism is the first of these disorders to be described. The essential features are as follows:

1. Onset before 30 months of age.
2. Pervasive lack of responsiveness to other people.
3. Gross deficits in language development.
4. If speech is present, peculiar speech patterns, such as immediate and delayed echolalia, metaphorical speech, and pronominal reversal.

5. Bizarre responses to various aspects of the environment, e.g. resistance to change, peculiar interest in or attachments to animate or inanimate objects.
6. Absence of delusions, hallucinations, loosening of associations and incoherence as in schizophrenia.

The residual state is seen in those individuals who once had the illness but currently show only certain symptoms such as oddities of communication and social awkwardness. However, they no longer meet the full criteria for infantile autism.

Childhood Onset Pervasive Developmental Disorder embodies some of the cardinal features of infantile autism but they do not become apparent until after 30 months of age.

The diagnostic criteria are as follows:

1. Gross and sustained impairment in social relationships, e.g. lack of appropriate affective responsivity, inappropriate clinging, associality, and lack of empathy.

2. At least three of the following:

   a. sudden excessive anxiety manifested by such symptoms as free floating anxiety, catastrophic reactions to everyday occurrences, inability to be consoled when upset, and unexplained panic attacks.

   b. constricted or inappropriate affect, including lack of appropriate fear reactions, unexplained rage reactions and extreme mood lability.

   c. resistance to change in the environment (e.g. upset if dinner time is changed), or insistence on doing things in the same manner every time (e.g. putting on clothes always in the same order).

   d. oddities of motor movement, such as peculiar posturing, peculiar hand or finger movements, or walking on tip toe.

   e. abnormalities of speech, such as question-like melody or monotonous voice.

   f. hyper- or hypo-sensitivity to sensory stimuli, e.g. hyperacusis.

   g. self-mutilation, e.g., biting or hitting self, or head banging.

3. Onset of the full syndrome after 30 months of age and before 12 years of age.

4. Absence of delusions, hallucinations, incoherence or marked loosening of associations.

The residual state is once again seen in the individual who once had the illness but no longer exhibits the full clinical picture. However, certain symptoms continue, usually in the areas of communication oddities or social awkwardness.

Atypical Pervasive Developmental Disorder is a category which should be used for children with distortions in the development of multiple basic psychological functions that are involved in the development of social skills and language. It is used when there is not enough information to warrant the diagnosis of either the first two disorders but an apparent pervasive developmental disorder is present.

An example of a child who was referred to the Variety Club School for evaluation and educational placement may help to further demonstrate the recognition of these children.

The request for evaluation of Raymond was initiated by his mother, a social worker, because of his speech delay and unawareness of his environment. He was accepted into the school's six week diagnositc program following an interview with the parents and a failure in the four categories of the Denver Developmental Screening Test.

Raymond was the youngest child (2 years, 6 months) in an intact family which included his parents and a 4 year old brother, Kaimi. Both children were adopted. Raymond was 10 weeks of age at the time of adoption. Consequently, little is known of his social environment during his first 10 weeks other that that he was in 3 different homes prior to being placed with his adoptive parents. Raymond's biological mother was 15 years old at the time of his birth. There was no maternal family history of mental or neurological illness. The father's history was not known. The prenatal period as well as the labor and delivery were described as normal. There were no medical problems reported in this child. However, a public health nurse who saw Raymond at 6 weeks commented that he did not smile and reacted quickly to changes in his enviroment by becoming fussy and being unable to be comforted.

The adoptive parents were concerned about Raymond's seemingly lack of interest in his environment from the time of placement. Throughout his infancy they described him as more interested in inanimate objects and unable to be cuddled. He would not make eye contact with either of them. At the time of the initial evaluation at Variety Club School, Raymond was delayed in all areas of development. Most significant were his deficits in language

development, lack of responsiveness to other people, resistance to environmental changes and his attachment to inanimate objects. Raymond exhibited no babbling until he was 18 months of age. At 2 years, 6 months his vocabulary consisted of 2 words. Audiological exam ruled out a hearing disorder. The Receptive-Expressive Emergent Language Scale was completed and revealed a significant delay in both expressive (10 months) and receptive (less than 10 months) language development. Behavioral observation revealed no peer contact, a need for one-to-one contact by an adult the majority of the time, and a response to environmental change by physically injuring himself. He was functioning approximately 12 months below age expectancy in adaptive skills as assessed on the Vineland Social Maturity Scale.

Psychiatric consultation was done by myself at the end of the six week evaluation period. The complete evaluation was discussed by the staff and parents together with a diagnosis of Infantile Autism being made. During the six week evaluation period Raymond had made minor progress in his speech and developed a surprisingly close attachment to his teacher in the preschool classroom. Because of this and the parents willingness to involve themselves in Raymond's treatment, a treatment plan was formulated which included: (1) a small structured classroom environment, (2) consistent one-to-one contact between Raymond and his teacher or teacher's assistant with repeated verbal interaction and direction by them, (3) positive reinforcement of socially acceptable behavior by the teacher and staff which included verbal praise and physical signs of affection; (4) encouragement of frequent interaction with his peers to be accomplished through the teacher's initiation and persistent encouragement; (5) both indirect and direct consultative services from our speech/language pathologist; (6) involvement of both parents in the classroom setting and individual counseling. The grandparents were also to be included in some of the individual counseling sessions.

Through the persistence of all involved Raymond began showing progressive improvement in all areas of development. Most notable was his progression in language development, speaking in four word sentences one year following the initiation of his treatment plan. Progressive improvement was also noted in his contact and interraction with peers, decrease in interest in inanimate objects, and ability to cope with environmental change.

The above case illustrates the need for early recognition and appropriate treatment planning in these disorders. The child's progress was and remains remarkable. The prognosis for these children is generally not as optimistic as this case would seem to indicate. Infantile Autism has a chronic course and a very guarded prognosis. As a general rule it is the autistic children with higher I.Q.'s and use of communicative language by ages 5 to 7 who have the best prognosis. These are the children who are much more

likely to have a relatively good social adjustment and who attain some higher education or gain employment. A review of follow-up studies by DeMeyer and colleagues in 1981 indicates that 5-18% had good to very good outcomes, 16-27% had fair outcomes and 60-75% had poor to very poor outcomes. Ratings were based on use of communicative speech, educational achievement within 2 years of chronological expectation, gainful employment, loss of autism, and presence or absence of long-term institutionalization.

Raymond's case also illustrates some important treatment considerations which have developed over the years. The remainder of this presentation will be devoted to the treatment of these disorders.

Treatment begins with adequate evaluation and planning. Both the evaluation and treatment of these disorders are most appropriately done with a multidisciplinary approach (team concept) to include educational professionals, speech pathologist/therapist, mental health professionals, and the parents.

The goals of treatment in these disorders are to decrease behavioral symptoms and to promote the development of delayed, rudimentary, or nonexistent functions such as language and self-care skills. In addition, the parents should be actively involved in the treatment.

Structured classroom training in combination with intrusive behavioral methods appear to be the most effective treatment methods for most of these children and is superior to other types of behavioral approaches. Well controlled studies indicate that gains in the areas of language and cognition, as well as decreases in maladaptive behaviors, are achieved using this combined method. This type of intervention requires in most cases, at least initially, a 1:1 student/teacher ratio with gradual phasing into somewhat larger classrooms. Maintenance and generalization of learning are crucial; but are not always achieved. They may be influenced by a variety of parameters. Treatment methods have been developed to train parents as co-therapist. Careful parental training, individual tutoring of parents in the concepts and skills of behavior modification, and focusing on individual parent problems and concerns, within a problem solving format, may yield considerable gains in the language, cognitive, and social areas of behavior. Generally the child requires an all day structure and a daily program for as many hours as feasible.

The term "structured training" has various meanings. It is important to be clear about what is meant by this term. At the classroom level this is used to describe the organization of the school day so that there is a well planned, well organized timetable with time allocated to different activities. Within this overall planned day, flexibility is needed in drawing up specific

programs to suit the individual needs of each child. At a more individual level we talk of structuring a particular learning task. The stimuli impinging on the child and the responses he makes are controlled or structured by the teacher in such a way as to facilitate correct behavior. This structuring at an individual level helps us defind the term "intrusive behavioral methods". This technique involves the continual monitoring by the educator to insure that the child remains on task and does not engage in maladaptive or disruptive behavior.

Within the classroom training or independently, language and communication programs should be conducted, particularly for the more impaired children. One program is the behavior modification approach to speech and language development and another is sign language, in combination with speech or without. In addition to language acquisition, decreases in maladaptive behaviors have been reported by utilizing these methods.

Pharmocotherapy (major tranquilizers) in addition to the educational and behavioral methods seem to be a valuable adjunct to the comprehensive treatment programs for these children. These medications have been used to influence specific maladaptive behaviors but they have not yet, in themselves, been shown to be effective in reversing the global deficits in personality development these children experience. However, in certain individual cases they appear to facilitate education and therapy.

In summary, children with pervasive developmental disorders require comprehensive multidisciplinary full day treatment programs on a daily basis for an extended period of time. This should include work with the parents. Such programs can be carried out in day schools and day care or residential treatment centers. Although no controlled, definitive, prospective study exists in which the long term efficacy of therapeutic interventions has been measured, it appears clinically that special education and work with parents make the most important contributions, at times requiring the assistance of pharmacotherapy..

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